Major Depressive Disorder Among Preadolescent Canadian Children: Rare Disorder or Rarely Detected?

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Abstract

Objective: Despite agreement that preadult onset of depression is associated with greater illness severity, and that children can meet the diagnostic criteria for major depressive disorder (MDD), few studies have examined the presentation of MDD among young children. This is the first nationwide study of MDD among preadolescent children in Canada.

Methods: Pediatrician members (2500) of a Canadian pediatric surveillance network were surveyed monthly over 3 years to report new cases of MDD among 5- to 12-year-olds. Survey response and questionnaire completion rates were 80% and 85%, respectively. Symptom presentation and duration, impairment, medical and psychiatric history, and management were reported.

Results: Twenty-nine new cases of MDD were identified by pediatricians. Of these, 23 (79%) experienced symptoms for >6 months before presentation with global functional impairment. Parental depression or anxiety, commonly maternal, was present in 21 cases (72%). Twenty-two children (76%) reported suicidal ideation; 6 (21%) had attempted suicide. Twenty-three children (79%) were treated with medication. Thirteen children (45%) were treated with 2 or more medications.

Conclusions: Children with MDD frequently had a parental history of mood disorders, experienced long-standing symptom presence, high symptom burden and functional impairment prior to presentation; and commonly treatment with polypharmacy.

Keywords: children; community practice; early-onset depression; pediatrics; treatment

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What's New

Diagnosis of major depressive disorder (MDD) among preadolescent children is uncommon in Canada. Preadolescent children identified with MDD have severe and long-standing symptoms and functional impairment before presentation. Among young children with MDD, a parental history of mood disorders is frequently present.

THERE IS NOW compelling evidence that preadolescent-onset depression can be severe and can lead to serious consequences.[1–4] Population-based studies have reported that the onset of depression at a young age, particularly before adolescence, is a risk factor for an increased number and severity of depressive episodes,[5,6] increased suicidality,[3,6] increased emergency department visits and hospitalizations,[3,5] increased psychiatric and medical comorbidity,[5,7,8] higher health care costs,[9] lower educational attainment,[10] and greater social and occupational impairment.[6] Current epidemiologic data estimate that childhood (preadolescent) depression occurs in 1% to 2% of children.[11–13] However, research regarding the onset and course of childhood depression has typically been collected from adult participants, thereby relying on the retrospective recall of age at onset that is subject to recall bias.

Despite general agreement that children and adolescents can meet diagnostic criteria for major depressive disorder (MDD), few studies have used prospective data collection of preadolescent MDD. Accurate identification of MDD in young children is important in order to facilitate early detection and employ effective interventions to reduce morbidity and mortality. Twenty-five years ago, a critical review of 14 studies regarding the epidemiology of child and adolescent depressive disorders concluded that although MDD appeared to be uncommon in prepubertal children, the shortcomings of the literature, including measurement inconsistencies, suggested the need for further research in this area.[14] Subsequent research addressing

these questions has unfortunately been limited. Research in young children has suggested that current *Diagnostic and Statistical Manual of Mental Disorders* (DSM) criteria require modification in order to be applicable to preschoolers.[15] Similarly, several small studies in diverse clinical populations[16–18] and one large study of children in Hungary[19] have reported differences in symptom presentation of depressed children compared to adolescents with depression. As such, questions regarding the appropriateness of MDD diagnostic criteria, the degree of MDD-related impairment, and the management of MDD for preadolescent children remain largely unanswered.

The objectives of this study were to prospectively collect and summarize details regarding the detection of MDD in preadolescent children and their associated characteristics and management in a national sample of pediatrician offices. Consistent with previous research, we hypothesized that first, children with MDD would experience considerable functional impairment; and second, that treatment strategies would be similar to those used for adolescents. We also suspected that a diagnosis of MDD among preadolescent children would be uncommon, but we recognized that our study was not designed to assess MDD incidence.

We undertook what is to our knowledge the first nationwide prospective study of MDD in Canadian children by using an established disease surveillance system, the Canadian Pediatric Surveillance Program (CPSP). Although large surveys of children's mental health have previously been conducted in Canada,[20,21] respondents in these surveys (primarily parents) have completed questionnaires on behalf of their children, which included information about the child's feelings and behaviors but did not include clinical assessments. As such, past surveys have been unable to confirm clinical diagnoses of MDD, examine clinical comorbidities, or accurately report on the current management of childhood MDD. The present study examined physician assessment of MDD including their reports on comorbidities, management strategies, and family history of children with MDD, thus addressing some of the methodologic limitations of previous studies.

METHODS

Through the CPSP,[22] approximately 2500 pediatricians across Canada were asked each month from January 1, 2012, to December 31, 2014, to submit information on any case that they had seen in their practice meeting the case definition of very early onset (VEO) MDD,[23] as defined in the monthly survey.[24,25] Briefly, the CPSP is an active surveillance system in which 2500 Canadian pediatrician participants are contacted each month to inquire about the presentation in their clinic of the condition (VEO-MDD) under active surveillance during the previous month. If they respond "yes," then they are provided with a full case definition and are asked to report sufficient demographic information to allow the surveillance system to detect duplicate cases in the event that families sought help from more than one pediatrician. Participants also report pertinent clinical and treatment information. To improve compliance with surveillance, only a limited number of pediatric conditions are surveyed at any one time, usually 6 to 8, and at least one condition is dropped and a new one added each year. Although active surveillance is more costly and time-consuming than passive surveillance, which relies on clinician-initiated reporting rather than regular contact, reminders, and feedback to stimulate reporting, active surveillance methods provide better case identification than passive surveillance of health conditions.[25] Prior CPSP studies indicate a mean reporting rate of 80%, with an average 85% to 90% response rate for detailed questionnaire completion[22,26] once a case had been reported.

CASE ASCERTAINMENT

Cases were included as follows: any child aged 5 to 12 years (inclusive, from the fifth to the 13th birthday) seen in the previous month with a newly identified VEO major depressive episode (MDE), as defined by the DSM-IV-TR[23] (Table 1). Pediatrician participants were provided with the case definition on the data form, which included the depressive symptoms that comprise a depressive episode. MDEs may occur within the broader context of either unipolar (MDD) or bipolar illness. Exclusion criteria were the presence of or history of hypomanic or manic symptoms, substance use, or general medical conditions to which the MDE might be attributed, such that the MDE reflected the presence of MDD, and not bipolar disorder or other underlying illness.

For each case identified, the physician was asked to complete a nonnominal case report form detailing the patient's demographic data, depressive symptoms (including suicidality), duration of symptom onset, initiated or planned treatments, domains of functional impairment, presence of medical or psychiatric comorbidities, history of abuse or neglect, and family history of mental illness in a first-degree relative (Online Appendix). Using the information available to them, pediatricians were asked to report whether the case had required emergency department services or hospitalization, and whether the case or family member had sought advice or care from school officials, community agencies, or allied health professionals. The case report form required 5 to 10 minutes to complete.

DATA ANALYSES

Descriptive analyses (means, standard deviations, and proportions) were used to describe the study participants. Box-and-whisker plots were used to display data regarding age at symptom onset and VEO-MDD diagnoses in order to visually present the range of these data (median, interquartile range) and allow for further examination of the relative patterns of skewness for these factors.

Ethics approval was granted by the research ethics board of the Hospital for Sick Children, Toronto.